CONTENTS OF VOLUME 2A

Introduction to the Series v
Contents of the Handbook vii
Introduction xi

PART 3 – AGRICULTURE, NATURAL RESOURCES
AND THE ENVIRONMENT

Chapter 22
The Economics of Agriculture in Developing Countries: The Role of the Environment
RAMÓN LÓPEZ 1213
Abstract 1214
Keywords 1214
1. Agriculture and the environment with fixed institutions 1218
   1.1. Open access agriculture 1219
   1.2. Common property with restricted access 1221
   1.3. Private property 1224
   1.4. Economic growth and natural capital with fixed institutions 1227
2. Endogenous institutions 1228
   2.1. Market incentives and communal institutions 1229
   2.2. Privatization 1231
3. Conclusion 1233
Technical Appendix. Two-sector endogenous growth model of a small open economy 1234
References 1244

Chapter 23
Agriculture and the Environment
ERIK LICHTENBERG 1249
Abstract 1250
Keywords 1250
1. Introduction 1251
2. Agriculture, stewardship, and the environment 1252
   2.1. Agriculture and environment: theory 1252
   2.2. Stewardship incentives in agriculture 1255
   2.3. Agriculture and the environment: empirical evidence 1260
3. Heterogeneity 1262
   3.1. Efficiency of alternative policies in a heterogeneous industry 1264
   3.2. Heterogeneity and implementability 1272
4. Uncertainty 1282
   4.1. Taxes, subsidies, and best practice standards under uncertainty 1282
   4.2. Regulatory aversion to uncertainty 1288
   4.3. Information acquisition: IPM and precision agriculture 1290
5. Interactions among agricultural, resource, and environmental policies 1295
   5.1. Agricultural price and income policies 1296
   5.2. Price stabilization and crop insurance 1299
   5.3. Input subsidies 1300
6. Concluding remarks 1302
Acknowledgements 1304
References 1305

Chapter 24
Common-Pool Resources and Institutions: Toward a Revised Theory
ELINOR OSTROM 1315
Abstract 1316
Keywords 1316
1. Introduction 1317
2. The conventional theory of common-pool resources 1318
3. A common-pool resource in the laboratory 1318
   3.1. Communication in the laboratory 1319
   3.2. Monitoring and sanctioning in the laboratory 1321
4. Common-pool resources in the field 1323
5. On the origin of self-governed common-pool resources 1324
6. On the design principles of robust, self-governed common-pool resource institutions 1330
7. Theoretical puzzles 1333
   7.1. Size of group 1333
   7.2. Heterogeneity 1334
8. Conclusion 1335
References 1336

Chapter 25
Agriculture and Ecosystem Services
GEOFFREY M. HEAL and ARTHUR A. SMALL 1341
Abstract 1342
Keywords 1342
1. Agriculture and global environmental change 1343
   1.1. Organization of the chapter 1346
2. Agriculture and ecosystem services: a brief overview 1347
PART 4 – AGRICULTURE IN THE MACROECONOMY

Chapter 26
Applied General Equilibrium Analysis of Agricultural and Resource Policies
THOMAS W. HERTEL

Abstract

Keywords

1. Introduction

2. Why applied general equilibrium analysis of agriculture?
   2.1. Benefits of AGE analysis
   2.2. Hidden challenges to AGE analysis

3. Data and aggregation issues: How detailed should the model be?
   3.1. Sectoral and commodity disaggregation
   3.2. Household disaggregation
   3.3. Regional disaggregation
   3.4. Agriculture as a multiproduct industry
   3.5. Producer heterogeneity
   3.6. Establishing an appropriate benchmark
   3.7. Treatment of land in AGE models
   3.8. The role of water

4. Parameter specification and model closure
   4.1. Specification of preferences and technology
   4.2. Short, medium, or long run?
   4.3. Supply response
   4.4. Model closure
   4.5. Equilibrium demand elasticities
   4.6. Systematic sensitivity analysis
5. Modeling policies that affect agriculture 1400
   5.1. Modeling voluntary participation 1400
   5.2. Interventions in the processed product markets 1401
   5.3. Agricultural policies in a changing world economy 1401
   5.4. Political economy of policies: General equilibrium dimensions 1402
6. Agriculture and the environment 1403
7. Product differentiation and imperfect competition 1404
8. Model validation 1406
9. Conclusions 1407
Acknowledgements 1411
References 1411

Chapter 27
Agriculture and the Macroeconomy, with Emphasis on Developing Countries 1421
MAURICE SCHIFF and ALBERTO VALDÉS 1421
Abstract 1422
Keywords 1422
1. Introduction 1423
2. Development strategies in the South after World War II: A historical perspective 1424
3. The macroeconomic environment and agricultural price incentives 1427
   3.1. The real exchange rate 1428
   3.2. Policy-induced effects 1431
   3.3. Exogenous effects including Dutch disease 1440
   3.4. Interest rates 1443
   3.5. Structural adjustment 1445
4. The North 1446
   4.1. The United States 1446
   4.2. The European Union and its common agricultural policy 1448
   4.3. Japan and New Zealand 1449
5. Concluding comments 1449
Acknowledgements 1451
References 1451

Chapter 28
The Macroeconomics of Agriculture 1455
PIER GIORGIO ARDENI and JOHN FREEBAIRN 1455
Abstract 1456
Keywords 1456
1. Introduction 1457
2. Inter-sector linkages 1459
   2.1. Agriculture to the general economy (backward linkages) 1459
   2.2. General economy to agriculture (forward linkages) 1461
   2.3. Feedback effects 1470
D.2. Panel data set of non-rural human capital (average years of education per person over the age of 25) 1540
Acknowledgements 1542
References 1542

Chapter 30
The Rural Sector in Transition Economies
KAREN BROOKS and JOHN NASH 1547
Abstract 1548
Keywords 1548
1. Introduction: From isolation to integration in Eastern and Central Europe and Central Asia 1549
2. The legacy of the plan 1552
3. The agenda of transition 1563
3.1. Land and farms 1563
3.2. Rural finance 1568
3.3. Reforms of price policy and trade 1571
3.4. Privatization 1576
3.5. Legal and regulatory reform 1581
3.6. Public goods and services 1583
4. Outcomes and prospects 1584
Acknowledgements 1587
References 1587

Chapter 31
Rural Development and Rural Policy
ALAIN DE JANVRY, ELISABETH SADOULET and RINKU MURGAI 1593
Abstract 1594
Keywords 1595
1. Agricultural economics and rural economics 1596
2. Why the need for a rural policy? 1598
2.1. The less developed countries 1598
2.2. The more developed countries 1599
3. Approaches to rural development in a historical perspective 1600
3.1. From World War II to 1980: Role of the state in rural development 1601
3.2. The 1980s: Restoring the role of the market 1604
4. The 1990s: New context for rural development 1605
4.1. Role of the market 1605
4.2. Role of the state 1606
4.3. Role of civil society 1611
5. Modeling household responses 1615
5.1. Static household behavior under market imperfections 1615
5.2. Dynamic household models: Asset accumulation and evolution of agrarian structure 1622
Contents of Volume 2A

6. Modeling agrarian institutions: Informal finance 1632
   6.1. Formal and community-based finance: Limitations and comparative advantages 1633
   6.2. The theory of group lending: Peer selection, peer monitoring, and mutual insurance 1633
   6.3. Evidence on the importance and impact of group-lending programs 1637
   6.4. Lessons for institutional building for rural development 1639
7. Community relations and behavior 1643
8. Regional linkages and endogenous growth 1645
9. Conclusions: Toward a new approach to rural development 1646
References 1650

Chapter 32
Agriculture in the Macroeconomy: Theory and Measurement 1659
PHILIP ABBOTT and ALEX McCALLA

Abstract 1660
Keywords 1660
1. Introduction 1661
2. Agriculture’s structural transformation 1664
3. Agriculture in the macroeconomy 1669
4. Missing issues 1675
5. Theoretical basis for examining agriculture’s role/methodologies employed 1678
6. Empirical issues and limitations 1680
7. Conclusion 1681
References 1683

Author Index I-1
Subject Index I-33